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EXAMINER	
ZHU, WEIPING	

ART UNIT	PAPER NUMBER
1793	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/789,322	Applicant(s) ANDO ET AL.	
	Examiner Weiping Zhu	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-9, 18-20 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 18-20 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1, 3-9, 18-20 and 23 are currently under examination, wherein all claims have been amended in applicant's amendment filed on August 31, 2007. The original claim 2 has been cancelled in the same amendment. Claims 10-17, 21 and 22 have been withdrawn in the response to the restriction requirement filed on January 19, 2007.

Status of Previous Rejections

2. The previous objections to claims 1, 3, 4, 8, 18, and 19 because of various informalities; the previous rejection of claim 9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; the previous rejections of claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over JP 61-129246 in view of Tomioka et al. (US 3,532,560); and the previous rejections of claim 4 under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) as applied to the claim 1 above and further in view of JP 07-097656 as stated in the Office action dated April 5, 2007 have been withdrawn in light of the applicant's amendments filed on August 31, 2007. The previous rejections of claims 5 and 9 under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of Bach et al. (US 4,704,166); the previous rejections of claims 6-8 under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of Bach et al. ('166) as applied to the claim 5 above and further in view of JP ('656); the previous rejections of claims 18 and 20 under 35 U.S.C. 103(a) as being unpatentable

over JP ('246) in view of JP ('656) and further in view of Sakai et al. (US 5,878,323); and the previous rejections of claims 19 and 23 under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of JP ('656) and Sakai et al. ('323) as stated in the Office action dated April 5, 2007 have been maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560).

With respect to claim 1, JP ('246) discloses a method for manufacturing a billet for cold forging comprising: annealing a blank of medium carbon steel, drawing the blank, annealing the drawn blank to form a billet; and cutting the billet (2nd paragraph, right column, page 4, Fig. 2, orally translated by an USPTO translator).

JP ('246) does not specify the first and second annealings as spheroidizing annealings as claimed. However, it would have been obvious to one of ordinary skill in the art that the annealings are functionally equivalent to the spheroidizing annealings as evidenced by Tomioka et al. ('560) (col. 2, lines 5-10). The substitution of the annealings in JP ('246) by the functionally equivalent spheroidizing annealings would lead to the expected success. See MPEP 2144.06.

JP ('246) does not disclose the drawing ratio as claimed. Tomioka et al. ('560) discloses that the drawing ratio is less than 20% (col. 7, lines 62-65). The claimed ratio of "approximately 20%" includes the less than 20% as disclosed by Tomioka et al. ('560). It would have been obvious to one of ordinary skill in the art to have applied a drawing ratio of less than 20% as disclosed by Tomioka et al. ('560) in the process of JP ('246) in order to achieve the desired diameter and tensile strength of the wire as disclosed by Tomioka et al. ('560) (col. 7, lines 62-65).

With respect to claim 3, the cutting step disclosed by JP ('246) is after the 2nd annealing. However it is well held that it was improper to read a specific order of steps into method claims. See MPEP 2111.01 II.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) as applied to claim 1 above and further in view of JP ('656).

JP ('246) in view of Tomioka et al. ('560) does not specify the chemical composition of the medium carbon steel as in the instant claim 4.

JP ('656) discloses a cold forging medium carbon steel with a chemical composition comprising: C: 0.3-0.6 wt.%; Si: 0.10 wt.% or less; Mn: 0.15-0.65 wt.%; P: 0.10 wt.% or less; S: 0.10 wt.% or less; Cu: 0.05-0.40 wt.%; Ni: 0.05-0.40 wt.%; and Cr: 0.50 wt.% (abstract and claim 2, translation), which overlaps the claimed composition. A prima facie case of obviousness exists. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to substitute the medium carbon steel of JP

('246) with that of JP ('656) in the process of JP ('246) with expected success because both medium carbon steels would have similar compositions.

5. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of Bach et al. ('166) as stated in the Office action dated April 5, 2007.

With respect to the amended features in claims 5 and 9, they do not change the scopes of the claims; therefore the grounds of rejections as stated in the Office action dated April 5, 2007 are applied herein.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of Bach et al. ('166) as applied to the claim 5 above and further in view of JP ('656) as stated in the Office action dated April 5, 2007.

With respect to the amended features in claims 6-8, they do not change the scopes of the claims; therefore the grounds of rejections as stated in the Office action dated April 5, 2007 are applied herein.

7. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of JP ('656) and further in view of Sakai et al. ('323) as stated in the Office action dated April 5, 2007.

With respect to the amended features in claims 18 and 20, they do not change the scopes of the claims; therefore the grounds of rejections as stated in the Office action dated April 5, 2007 are applied herein.

8. Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('246) in view of Tomioka et al. ('560) and further in view of JP ('656) and Sakai et al. ('323) as stated in the Office action dated April 5, 2007.

With respect to the amended features in claims 19 and 23, they do not change the scopes of the claims; therefore the grounds of rejections as stated in the Office action dated April 5, 2007 are applied herein.

Response to Arguments

9. The applicant's arguments filed on August 24, 2007 have been fully considered but they are not persuasive.

First the applicant argues that JP ('246) discloses preferred steps having only one softening by annealing step (2) in Fig. 1; further JP ('246) does not teach the microstructures of the steel and drawing ratio of approximately 20% as required by the instant claim 1. In response, the examiner notes that the rejection was based on the prior art's broad disclosure rather than preferred embodiments. See MPEP 2123. JP ('246) also discloses steps meeting the claim limitations in Fig. 1 as stated in the Office action dated April 5, 2007. Furthermore, both claimed and JP ('246)'s starting steel blanks are of medium carbon steels. Therefore, similar microstructures would be expected in the blank of JP ('246) as in the claimed blank. Finally, JP ('246) in view of Tomioka et al. ('560) teaches the claimed drawing ratio as stated in the Office action dated April 5, 2007 and discussed in the paragraph 3 above.

Second, the applicant argues that Tomioka et al. ('560) teaches that an annealing treatment and a spheroidizing annealing treatment are two distinct

treatments. In response, the examiner notes the arguments of the counsel cannot be relied upon as evidence. Tomioka et al. ('560) teaches that an annealing treatment and a spheroidizing annealing treatment are functionally equivalent in terms of reducing the hardness of such a steel to a level suitable for the cold shaping operation (col. 2, lines 5-10). The motivation of the annealing treatments does not have to be the same as that of the instant invention. See MPEP 2153.

Third, the applicant argues that Bach et al. ('166) fails to remedy the deficiencies of JP ('246) in view of Tomioka et al. ('560). In response, the examiner notes as stated in the Office action dated April 5, 2007, that JP ('246) in view of Tomioka et al. ('560) does not teach quenching a blank unloaded from a heating furnace to form a fine martensite in a surface as claimed. Bach et al. ('166) disclose a method for producing a medium carbon steel rod comprising cooling the hot-rolled article quickly to form a surface layer of martensite (col. 1, line 62 – col. 2, line 30), which obviously remedies the deficiency. JP ('246) in view of Tomioka et al. ('560) is still relied upon to meet the rest claim limitations of the instant claims 5 and 9. The combination of Bach et al. ('166) with JP ('246) in view of Tomioka et al. ('560) with a proper motivation as stated in the Office action dated April 5, 2007 renders the claimed feature in the instant claims 5 and 9 obvious to one ordinary skilled in the art.

Fourth, the applicant argues that the age treatment taught by Sakai et al. ('323) is addressed to bonding together two pieces of aluminum alloy. In response, the examiner notes that the age treatment of Sakai et al. ('323) as part of a thermal treatment applied to a plastically worked component is used to enhance the nature of the alloy (e.g.

strength, hardness, internal stress level etc.) (col. 5, lines 40-45). The combination of Sakai et al. ('323) with JP ('246) in view of JP ('656) with a proper motivation as stated in the Office action dated April 5, 2007 in the rejections of claims 18 and 20 is proper.

Fifth, the applicant argues that Tomioka et al. ('560) teach that heat treatment, such as age treatment, is not needed. In response, the examiner notes that the arguments of the counsel cannot be relied upon as evidence. Tomioka et al. ('560) teach cold-forged parts processed from the steel wire tempered by their process do not require any further heat treatment after production thereof, because the parts of Tomioka et al. ('560) have already been continuously tempered as they were produced (col. 4, lines 8-20). The grounds of the rejections of the claimed process step limitations rely on the teachings of JP ('246) instead of Tomioka et al. ('560).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WZ

10/19/2007


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